REMARKS

The Office Action dated June 22, 2005 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 6 and 10 have been amended to more clearly define the invention. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 1-13 are submitted for consideration.

Claims 1, 6 and 10 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,122,279 to Milway et al in view of U.S. Patent No. 4,613,954 to Sheth and further in view of European Patent No. 0 572 145 A2 to Thompson et al. According to the Office Action, Milway teaches all of the elements of claims 1, 6 and 10 except for the network device of Milway being configured to prevent data misalignment by usings a counter to determine the number of bytes of a packet after the header has been removed, and insertion module and an extraction module. Thus, the Office Action uses Sheth and Thompson to cure these deficiencies of Milway to yield the claimed invention. The rejection is traversed as being based on references that neither teaches nor suggests the novel combination of features clearly recited in independent claims 1, 6 and 10.

Claim 1, upon which claims 2-5 depend, recites a network device that is configured to prevent data misalignment of a data packet containing extra header bytes. The network device includes an ingress module having an input interface to receive a cell of the data packet and a header detector configured to detect a header of a cell of the data

packet and remove the header from the cell of the data packet. The network device also includes a counter to determine whether the cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed. The network device further includes an insertion module configured to insert null bytes into the header of the cell of the data packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes. The network device also includes an extraction module configured to remove the null bytes from the modified header cell of the data packet as a modified cell of the data packet exits the network device.

Claim 6, upon which claims 7-9 depend, recites a method of preventing data misalignment of a data packet containing extra header bytes. The method includes receiving a cell of the data packet at an input port of a network device and detecting a header of a cell of the data packet. The method also includes removing the header from the cell of the data packet and determining whether the cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed. The method further includes inserting null bytes into the header of the cell of the data packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes and forwarding the modified cell of the data packet to an output port. The method also includes removing the null bytes from the modified header cell of the data packet as a modified cell of the data packet exits the network device.

Claim 10, upon which claims 11-13 depend, recites a network device configured to prevent data misalignment of a data packet containing extra header bytes. The network device includes receiving means for receiving a cell of the data packet at an input port of the network device and detecting means for detecting a header of a cell of the data packet. The network device also includes header removing means for removing the header from the cell of the data packet and determining means for determining whether the cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed. The network device further includes inserting means for inserting null bytes into the header cell packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes and forwarding means for forwarding the modified cell of the data packet to an output port. The network device also include null byte removing means for removing the null bytes from the modified header cell of the data packet as a modified cell of the data packet exits the network device.

As will be discussed below, the cited prior art references of Milway, Sheth and Thompson et al. fail to disclose or suggest the elements of any of the presently pending claims.

Milway teaches an ATM switch with a microprocessor, a switch controller, a memory, a token grant logic and port clusters, wherein each port cluster contains line interfaces, port logic and buffering for up to eight ATM network connections. Col. 6,

lines 27-33. Cell data is delivered from one cluster to another by a switch bus. Col. 7, lines 3-4. The principal task of the switch is to route ATM cells from a plurality of input links to a plurality of output links. Col. 7, lines 22-24. In operation, ATM cells are received by the switch via an ATM line interface. A new ATM cell arriving on an input link is converted from electrical signals to a bit stream that is provided to a network control logic which checks for errors and discards misdirected cells. Col. 9, lines 1-11.

Sheth teaches a data transfer network wherein a peripheral-controller is used to manage and control data transfer operations between a peripheral and a main host computer system, whereby data is transferred rapidly in large blocks. Col. 2, lines 43-49. The host system, to initiate an operation, sends to the peripheral controller an I/O descriptor that specifies the operation to be performed and descriptor link words that include path selection information and identify the task to be performed. Upon receiving the information the peripheral controller makes a transition to a state. When the operation is completed, the peripheral controller returns a result descriptor indicating the status of the operation to the host system. Col. 4, lines 10-47.

The system has capabilities of using a burst mode wherein data can be transferred to the host system at 64 megabits per second. Col. 11, lines 13-21. When in the burst mode, a burst counter maintains a count of the number of words remaining to be transferred between the host and the peripheral controller during the burst transfer cycle. In the normal situation when there are two or more blocks of data to be transferred to the host system, the controller sets the burst counter to 256 words and sends blocks of data to

the host in the burst mode. When there are less than two blocks of data remaining to complete the I/O operation, the controller calculates the actual length of the remaining data by comparing the P register and the S register. If the remaining number is odd, the final byte is the PAD byte and all zeros are inserted by the peripheral controller. The final two blocks are sent to the host by the controller on a word by word transfer basis, wherein each word is transferred individually rather than automatically as in the burst mode. Col. 13, lines 19-34.

Thompson teaches a computer system with a processor, a cache, a memory and a network adapter. The network adapter generates and inserts network data checksums. In the outbound direction, the processor provides checksum control information to the network adapter and the network adapter calculates the checksum and inserts the checksum into the proper location within the packet before transmitting the packet on the network. In the inbound direction, the network adapter decodes the packet header, programs the checksum control information directly into internal registers, calculates the checksum and inserts the checksum into the proper location within the packet before transmitting the packet on the memory. The network adapter also automatically separates headers and data during transfer of incoming packets from the adapter to the memory. The network data further performs alignment of network headers by inserting pad bytes based on specific values found in the network link header. Col. 3, line 1-Col 4, line 50.

The network adapter is connected to the network through a front plane controller that provides transmission and reception of data packets to and from the network. For

outbound transfers, the front plane controller unpacks the words from a DMA bus, looks at the first byte of the output stream, which contains a count of how many pad bytes were inserted in the packet and strips off the pad bytes. Col. 6, lines 35-46.

Applicants submit that the combination of Milway, Sheth and Thompson et al., simply does not teach or suggest the combination of features clearly recited in claims 1, 6 and 10. Claims 1, 6 and 10, in part, recite inserting null bytes into the header of the cell of the data packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes and removing the null bytes from the modified header cell of the data packet as a modified cell of the data packet exits the network device. On page 2, the Office Action alleges that Sheth discloses and teaches inserting null bytes into the block of data to form a modified cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes. However, upon review, Sheth simply does not teach or suggest inserting null bytes into the header of the cell of the data packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes as recited in claims 1, 6 and 10.

As mentioned above, Sheth teaches a burst counter that maintains a count of the number of words remaining to be transferred between the host and the controller during the burst transfer cycle and when there are less than two blocks of data remaining to complete the I/O operation, the controller calculates the actual length of the remaining

data and if the remaining number is odd, the final byte is the PAD byte and all zeros are inserted by the control. In the present invention, on the other hand, after the header is removed, the entire cell of the packet is checked to determine if there is misalignment. If there is, then the present invention modifies the header portion as disclosed in paragraph [0041] and recited in claims 1, 6 and 10. As such, the teaching of the claimed invention as recited in claims 1, 6 and 10 is different from the teaching of Sheth where the end of the packet is padded if the remaining number of bytes in the last two blocks is odd and the last two blocks of data are sent word by word instead of in a burst mode. The Office Action also correctly notes that Sheth does not teach or suggest the insertion module recited in claims 1, 6 and 10 but cites Thompson et al. as curing this deficiency.

Thompson et al. simply does not cure the deficiencies of Sheth and Milway. There is simply no teaching or suggestion in Thompson of inserting null bytes into the header of the cell of the data packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes as recited in claims 1, 6 and 10. While Col. 4, lines 34-42 of Thompson et al. does teach that in a third operation, the network adapter performs alignment of network headers by inserting pad bytes, the insertion is based on specific values found in the network link. There is simply no teaching or suggestion in Thompson et al. of the counter determining that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes and **if it does**, inserting null bytes into the cell of the data packet to form a modified header of the cell of the data packet as recited

in claims 1, 6 and 10. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Milway, Sheth nor Thompson et al., whether taken singly or combined, teaches or suggests each feature of claims 1, 6 and 10.

Claims 2-4, 7-8 and 11-12 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Milway et al in view of Sheth and Thompson et al. and further in view of U.S. Patent No. 6,567,413 B1 to Denton. The rejection is traversed as being based on references that neither teaches nor suggests the novel combination of features clearly recited in independent claims 1, 6 and 10.

Denton also does not cure the deficiencies of Sheth, Milway and/or Thompson et al. Denton teaches an optical networking module that is formed with an integrated module including optical, optical-electrical and protocol processing components and complementary software. Each of claims 2-4, 7-8 and 11-12 depend on claims 1, 6 and 10 respectively, and thus, incorporates all of the elements of the independent claims. As such, each of claims 2-4, 7-8 and 11-12 include the element of inserting null bytes into the header of the cell of the data packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes as recited in claims 1, 6 and 10.

There is simply no teaching or suggestion in Denton of inserting null bytes into the header of the cell of the data packet to form a modified header cell of the data packet **if** the counter determines that the cell of the data packet **does not satisfy** the multiple of the

predetermined number of bytes as recited in claims 1, 6 and 10. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Milway, Sheth, Thompson et al. nor Denton, whether taken singly or combined, teaches or suggests each feature of claims 1, 6 and 10 and hence dependent claims 2-4, 7-8 and 11-12, thereon.

Claims 5, 9 and 13 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Milway et al in view of Sheth and Thompson et al. and further in view of U.S. Patent No. 6,697,873 B1 to Yik et al. The rejection is traversed as being based on references that neither teaches nor suggests the novel combination of features clearly recited in independent claims 1, 6 and 10.

Yik et al. also does not cure the deficiencies of Sheth, Milway and/or Thompson et al. Yik et al teaches an apparatus and method for storing and searching computer node addresses in a computer network system. Each of claims 5, 9 and 13 depend on claims 1, 6 and 10 respectively, and thus, incorporates all of the elements of the independent claims. As such, each of claims 5, 9 and 13 include the element of inserting null bytes into the header of the cell of the data packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes as recited in claims 1, 6 and 10.

There is simply no teaching or suggestion in Yik et al. of inserting null bytes into the header of the cell of the data packet to form a modified header cell of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of

the predetermined number of bytes as recited in claims 1, 6 and 10. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Milway, Sheth, Thompson et al. nor Yik et al., whether taken singly or combined, teaches or suggests each feature of claims 1, 6 and 10 and hence dependent claims 5, 9 and 13, thereon.

Furthermore, Applicants respectfully submit that the Office Action has pieced together five references to teach the claimed invention. However, MPEP 2143.01 instructs that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990)." MPEP 2143.01 further instructs that "[a]lthough a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.'" Applicants respectfully submit that the cited references do not provide such a suggestion or motivation. Applicants submit that the only motivation to piece together the five references of the Office Action is found in Applicants' own application. MPEP 2141, under the heading "Basic Consideration Which Apply to Obviousness Rejections," points out that "the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention." (See also Hodosh v. Block Drug Co., Inc. 786 F.2d 1136, 229 USPQ 182 (Fed. Cir. 1986).) The Federal Circuit has clearly held that "the motivation to combine references

cannot come from the invention itself." Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc., 21 F.3d 1068, 30 USPQ 2d 1377 (Fed. Cir. 1993).

In view of MPEP 2144.03, absent any teaching or suggestion in the prior art to adapt the teachings of Milway to meet the claimed invention, and because the rejection lacks evidence of a teaching or suggestion that the features would have been obvious to one of ordinary skill, the rejections under 35 U.S.C.

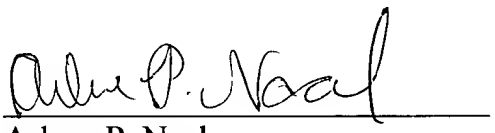
§103(a) are improper. Accordingly, Applicants respectfully submit that the rejections under 35 U.S.C. §103(a) should be withdrawn and Applicants respectfully request allowance of claims 1-13 and the prompt issuance of a Notice of Allowability.

As noted previously, claims 1-13 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-13 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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